Notice of Allowability	Application No.	Applicant(s)
	09/978,058	TAKESHITA ET AL.
	Examiner	Art Unit
	Dzung D Tran	2633
The MAILING DATE of this communication apperature All claims being allowable, PROSECUTION ON THE MERITS IS herewith (or previously mailed), a Notice of Allowance (PTOL-85) NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RI of the Office or upon petition by the applicant. See 37 CFR 1.313	(OR REMAINS) CLOSED in this ap or other appropriate communication GHTS. This application is subject to	plication. If not included not will be mailed in due course. <b>THIS</b>
1. This communication is responsive to 10/17/2001.		
2. The allowed claim(s) is/are 1-18.		
3. $\boxtimes$ The drawings filed on $\underline{10/17/2001}$ are accepted by the Exa	miner.	
<ul> <li>4.  Acknowledgment is made of a claim for foreign priority una)  All b)  Some* c)  None of the: <ol> <li>Certified copies of the priority documents have</li> <li>Certified copies of the priority documents have</li> <li>Copies of the certified copies of the priority documents have International Bureau (PCT Rule 17.2(a)).</li> </ol> </li> <li>* Certified copies not received:</li> </ul>	been received. been received in Application No	
Applicant has THREE MONTHS FROM THE "MAILING DATE" noted below. Failure to timely comply will result in ABANDONM THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.		complying with the requirements
5. A SUBSTITUTE OATH OR DECLARATION must be subm INFORMAL PATENT APPLICATION (PTO-152) which give		
6. CORRECTED DRAWINGS ( as "replacement sheets") must (a) including changes required by the Notice of Draftspers 1) hereto or 2) to Paper No./Mail Date  (b) including changes required by the attached Examiner's Paper No./Mail Date  Identifying indicia such as the application number (see 37 CFR 1 each sheet. Replacement sheet(s) should be labeled as such in the sheet in the sheet in the sheet in the sheet is sheet in the sheet in	on's Patent Drawing Review(PTO . s Amendment / Comment or in the 0 .84(c)) should be written on the drawi	Office action of ngs in the front (not the back) of
7. DEPOSIT OF and/or INFORMATION about the depo attached Examiner's comment regarding REQUIREMENT		
<ul> <li>Attachment(s)</li> <li>1. ☐ Notice of References Cited (PTO-892)</li> <li>2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)</li> <li>3. ☑ Information Disclosure Statements (PTO-1449 or PTO/SB/O Paper No./Mail Date 02/27/2002</li> <li>4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material</li> </ul>	6.  Interview Summary Paper No./Mail Da Paper No./Mail Da 7.  Examiner's Amend 8.  Examiner's Statement Other	ite

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## **DETAILED ACTION**

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## Allowable Subject Matter

1. Claims 1-18 are allowed. The following is an examiner's statement of reasons for allowance: The prior art of records does not teach or suggest the limitations "a frequency detection circuit for fetching the first and second signals generated by said signal generation circuit in synchronism with the input signal for each period of the input signal, logically operating the fetched signals and signals having been fetched in the immediately preceding period and outputting, based on a result of the arithmetic operation, a first frequency control signal for raising the frequency of the oscillation frequency signal of said oscillator or a second frequency control signal for lowering the frequency of the oscillation frequency signal of said oscillator" in claims 1 and 13. The closest prior art, Miyashita et al. (US 5,889,828) discloses clock reproduction circuit and elements used in the same and Brown et al. (US 6,333,678) disclose a method and apparatus for agile phase noise filtering using phase locked loop, either singularly or in combination, fail to anticipate or render the above underlined limitations obvious.

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## Conclusion

- 2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
- a. Keaveney et al. U.S. patent no. 6,556,086. Factional N-synthesizer and method of synchronization of the output phase
- b. Yoshie U.S. patent no. 6,353,358. Quadrature demodulation circuit with a pseudo locked state detection system
- c. Tatsumi U.S. patent no. 5,727,019. Digital modem
- 3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dzung Tran whose telephone number is (571) 272-3025.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisor, Jason Chan, can be reached on (571) 272-3022.

The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

LESLIE PASCAL
PRIMARY EXAMINER